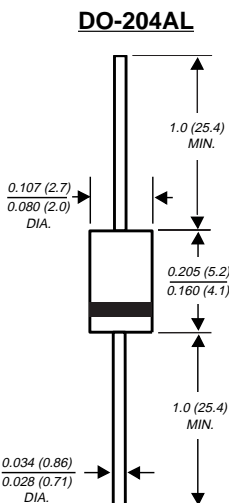


# RGP10A THRU RGP10M

## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

**PATENTED \***



NOTE: Lead diameter is 0.026 (0.66) for suffix "E" part numbers  
0.023 (0.58)

Dimensions in inches and (millimeters)

\* Glass-plastic encapsulation technique is covered by  
Patent No. 3,996,602 and brazed-lead assembly by Patent No. 3,930,306



### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High temperature metallurgically bonded construction
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ For use in high frequency rectifier circuits
- ◆ Fast switching for high efficiency
- ◆ 1.0 Ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- ◆ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ◆ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-204AL molded plastic over glass body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.012 ounce, 0.3 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

	SYMBOLS	RGP 10A	RGP 10B	RGP 10D	RGP 10G	RGP 10J	RGP 10K	RGP 10M	UNITS
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at T <sub>A</sub> =55°C	I <sub>(AV)</sub>	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	V <sub>F</sub>	1.3							Volts
Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length T <sub>A</sub> =55°C	I <sub>R</sub>	100.0							μA
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	5.0 200.0							μA
Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	150				250	500		ns
Typical junction capacitance (NOTE 2)	C <sub>J</sub>	15.0							pF
Typical thermal resistance (NOTE 3)	R <sub>θJA</sub>	55.0							°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175							°C

#### NOTES:

- (1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Thermal resistance from junction to ambient at  $0.375"$  (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES RGP10A THRU RGP10M

FIG. 1 - FORWARD CURRENT DERATING CURVE

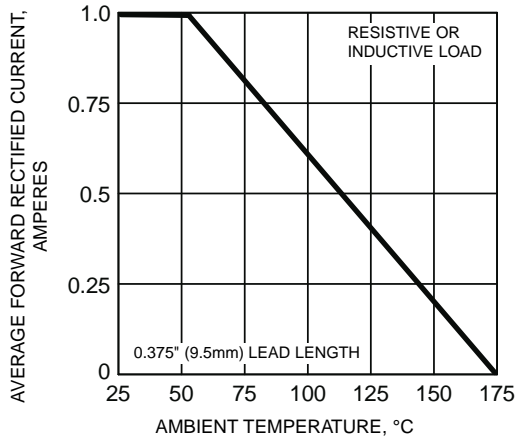


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

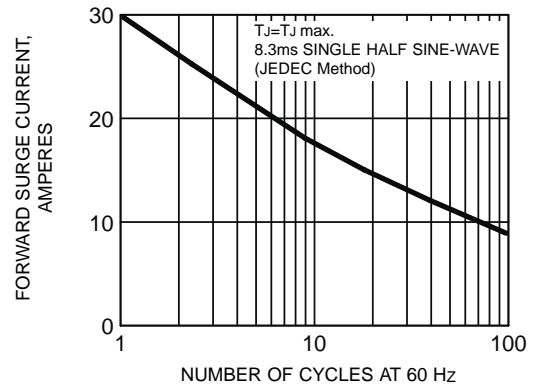


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

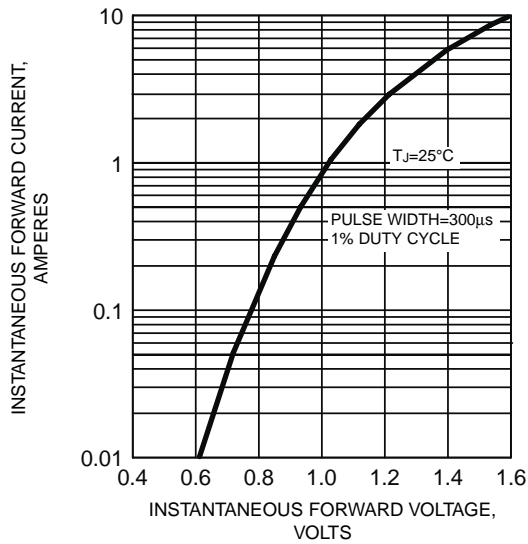


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

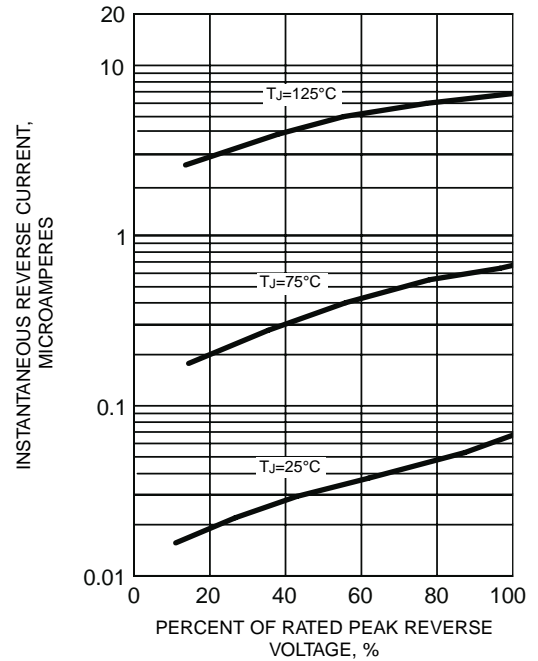


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

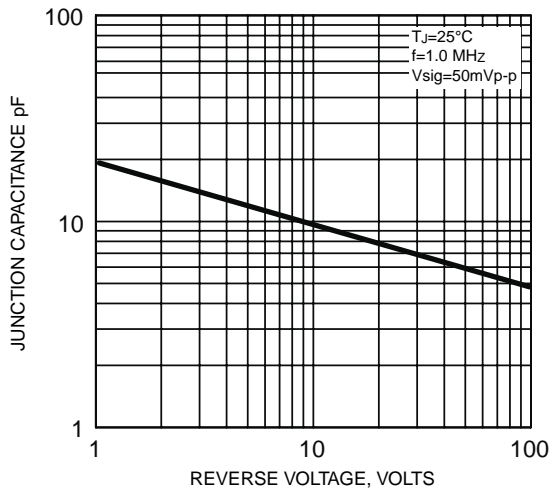


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

